



Corres. and Mail
BOX AF

27WAF
RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor : William M. Radich	
Appln. No.: 10/607,967	Group Art Unit: 2133
Filed : June 27, 2003	
For : COMPUTATION OF BRANCH METRIC VALUES IN A DATA DETECTOR	Examiner: Mujtaba M. Chaudry
Docket No.: S104.12-0037/STL 11305	

RESPONSE AFTER FINAL

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I HEREBY CERTIFY THAT THIS PAPER IS BEING
SENT BY U.S. MAIL, FIRST CLASS, TO THE
COMMISSIONER FOR PATENTS, P.O. BOX 1450,
ALEXANDRIA, VA 22313-1450, THIS

16th DAY OF JUNE, 2006

A. Rego
PATENT ATTORNEY

Sir:

This is in response to the Office Action dated April 17, 2006. In the Office Action, all pending claims 1-20 were rejected. Applicants respectfully request reconsideration and allowance of all pending claims.

On page 2 of the Office Action, FIGS. 1 and 2-1 were objected to for not including a legend such as --Prior Art--. At the bottom of page 2 of the Office Action, the Examiner states that "a figure is only acceptable without a 'Prior Art' label if that which is depicted incorporates the novel feature of the invention." Applicant respectfully points out that FIG. 2-1 shows an example read channel 200 that includes data detection and recovery circuitry 204 (shown in greater detail in FIG. 2-2), which incorporates features of example embodiments of the present invention. Example disc drive 100, of FIG. 1, includes the example read channel of FIG. 2-1. Thus, FIGS. 1 and 2-1

incorporate novel features of the present invention and therefore are acceptable without a label of "Prior Art" according to the statement on page 2 of the Office Action. Thus, the objection should be withdrawn.

On page 4 of the Office Action, claims 1, 2, 7, 8, 11, 12, 17, 18 and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Kavcic et al., U.S. Patent No. 6,438,180 (hereinafter referred to as Kavcic). On page 7 of the Office Action, claims 3-6, 9-10, 13-16 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kavcic. These rejections were addressed in a previous response that was filed on January 17, 2006.

In response to the Applicant's arguments that Kavcic does not teach or suggest computing branch metric values as a function of transition jitter statistics corresponding to signal samples, the Examiner, in general, repeats statements that were included in the previous Office Action. Specifically, the Examiner suggests that since FIG. 2 of Kavcic includes a Viterbi detector 30 and a noise statistics tracker 34, the claim 1 limitation of "computing the branch metric values as a function of transition jitter statistics corresponding to the signal samples," is taught by Kavcic.

Applicant respectfully points out that the entire Kavcic reference includes nothing about transition jitter or transition jitter statistics. As noted at the bottom of page 18 of the Applicant's Specification, transition jitter is a relatively dominant component of media noise and is dependent upon positions of data transitions. Kavcic does not address noise in connection the position domain, but provides multiple examples (in columns 6 and 7) of branch metric calculations based on variations in amplitudes of pulses (signal dependent noise and correlated noise). Addressing noise in the amplitude domain, in a manner taught by Kavcic, does not produce transition jitter statistics.

In summary, the present invention computes branch metric values by treating noise as transition jitter, and Kavcic teaches or suggests nothing about transition jitter. Consequently, claim 1, which includes computing the branch metric values as a function of transition jitter statistics corresponding to the signal samples, is patentably distinct and non-obvious over the Kavcic reference.

Independent claims 11 and 20 have elements similar to that of independent claim 1. Thus, for the same reasons as independent claim 1, Applicants submit that independent claims 11 and 20 are allowable as well. Moreover, Applicants respectfully submit that the dependent claims are also allowable by virtue of their dependency, either directly or indirectly, from the allowable independent claims. Further, the dependent claims set forth numerous elements not shown or suggested in the Kavcic reference.

In view of the foregoing, and for reasons included in the response filed on January 17, 2006, Applicant respectfully requests reconsideration and allowance of pending claims 1-20. Favorable action upon all pending claims is solicited.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Alan G. Rego, Reg. No. 45,956
900 Second Avenue South, Suite 1400
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

AGR:tkj